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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,671	12/07/2001	Derek Scott Johnston	BRK1326P0392US	7275

7590 09/19/2002

WELSH & KATZ
120 SOUTH RIVERSIDE PLAZA
22 FLOOR
CHICAGO, IL 60606

EXAMINER

LIEU, JULIE BICHNGOC

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 09/19/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,671

Applicant(s)

JOHNSTON ET AL.

Examiner

Julie Lieu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: claim 3 appears to depend on claim 2. ~~For~~ examining purpose the examiner presumes that this is the case. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein (US Patent No. 5,793,295) in view of and Alexander (US Patent No. 4,647,914) and further in view of Locker (US Patent No. 4,327,295).

Claim 1:

Goldstein discloses a self-contained combined gas and smoke detector comprising a gas and a smoke sensor, a control element coupled to both the sensors. The housing in Goldstein defines an internal region for receiving the sensors and the control element. The housing in Goldstein is perforated with a first opening to expose an LED but not shaped as a fire. However, the use of universal symbolic indicators is well known in the art as shown in Alexander (abstract and fig. 1, element 18). Therefore, it would have been obvious to one skilled in the art to recognize the desirability of using an opening shaped as a fire to indicate the detected fire to the user because it would provide clear indications which facilitate quick understanding of a user about the detected condition.

Regarding the claimed removable protective planar element, it would have been obvious to one of ordinary skill in the art that the gas sensor should be protected to ensure that it would not be contaminated before the sensor is put in use. For instance, Locker uses a planar cover 48 to prevent atmosphere from entering the test chamber until it is desired that a monitoring period is to begin. Therefore, one skilled in the art would have readily recognized using a protective planar element to cover the gas sensor in Goldstein for the same purpose. It would further have been obvious to one skilled in the art that the protective cover is applied during manufacturing of the gas sensor and it would be removed when the smoke detector is put in use because the protective element is use to protect the gas sensor until it is put to work.

Claims 2 and 3:

Regarding the claimed light emitting element position adjacent to the first opening, Goldstein has one circular opening with an LED to indicate that either or both alarm conditions (col. 6 lines 32-35). However, it would have been obvious to one of ordinary skill in the art to readily recognize that it would be desirable to use different visual indicators for indicating different alarm indication as taught in Alexander because the user would benefit from it by recognizing the source of the problem and taking the appropriate corrective action.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein (US Patent No. 5,793,295) in view of and Alexander (US Patent No. 4,647,914), Locker (US Patent No. 4,327,295) and further in view of Wallace (US Patent No. Des. 396,820).

Claim 4:

The claimed feature of certain shape or different physical elements that make up the detector housing would not be considered an inventive step, but rather, a design choice as shown in the design patent to Wallace. Wallace uses a multi-planar sided housing as an ornamental design for a combined smoke and gas detector, wherein the perimeter of the housing is formed of a plurality of intersecting planar sides with at least some sides intersect at angles in excess of 90 degrees. Therefore, this concept is well known in the art and it would have been obvious to one of ordinary skill in the art to use the housing in Wallace to house the detector of Goldstein. Moreover, it is only up to the designer to choose the shape of a smoke/gas detector in Goldstein so long as it serves the purpose of detecting smoke and gas and providing the indication thereof.

Claim 5:

The claimed feature of certain shape or different physical elements that make up the detector housing would not be considered an inventive step, but rather, a design choice as shown in the design patent to Wallace. Wallace uses a multi-planar sided housing as a ornamental design for a combined smoke and gas detector, wherein the perimeter of the hosing is formed of a plurality of intersecting planar sides with at least some sides intersect at angles in excess of 90 degrees. Therefore, this concept is well known in the art and it would have been obvious to one skill in the art to use the housing in Wallace to house the detector of Goldstein. Moreover, it is only up to the designer to choose the shape of a smoke/gas detector in Goldstein so long as it serves the purpose of detecting smoke and gas and providing the indication thereof.

Regarding the claimed elongated test member, it is conventional in the art for a smoke detector to have a test switch. Therefore, it would have been obvious to one skilled in the art to use a test member in this combined smoke detector device because test member is conventional and useful as a safety feature. Different shape of a smoke detector test switch is only a choice in design because they are functionally equivalent regardless of their shapes.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein (US Patent No. 5,793,295) in view of and Alexander (US Patent No. 4,647,914) and Locker (US Patent No. 4,327,295) and further in view of Buck et al. (US Patent No. 4,688,021).

Claim 6:

Goldstein fails to disclose different fire alarm patterns. However, the use of different alarm patterns to indicate different alarm conditions is old and well known in the art as taught in

Buck et al. (see table in col. 6). In light of this teaching, it would have been obvious to one skilled in the art to use different alarm indications as that taught in Buck because it would provide clear indications of different alarm situations.

6. Claims 7, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldstein (US Patent No. 5,793,295) in view of and Alexander (US Patent No. 4,647,914) and Locker (US Patent No. 4,327,295) and further in view of Huey, Jr. et al. (US Patent No. 5,594,422).

Claims 7, 14, and 20:

Goldstein fails to disclose the control element to include executable instructions for automatically testing the sensors. Nevertheless, Huey, Jr. et al. discloses the use of a control element, i.e. a SPU, for a smoke detector including instructions for automatically testing the sensor to ensure proper operation of the sensor. In light of this teaching, it would have been obvious to one skilled in the art to use a programmable control element SPU of Huey, Jr.'s in the Goldstein detector because it would provide more functional capability and enhance safety feature because it tests the sensor automatically without user intervention.

7. Claim 8, 10-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (US Patent No. 4,688,021) in view of Goszyk (US Patent No. 4,453,222).

Claim 8:

Buck discloses a self-contained combined gas and smoke detector comprising a gas and a smoke sensor, a control element coupled to both the sensors. The control circuitry in Buck

determines if a predetermined smoke condition has been sensed and a non-verbal alarm is energized to provide horn pattern to indicate the detected condition.

Buck et al. discloses producing at least first and second non-verbal alarms in response to smoke and gas alarms but does not disclose the use of a programmable processor for achieving the result. Nonetheless, the use of a programmed processor in a smoke/gas detector to detect and provide programmable annunciation is conventional in the art as shown in Goszyk. In light of this teaching, it would have been obvious to one skilled in the art to a programmed processor in Goldstein because it increases the versatility for control and alarm indications. Further, it would have been obvious to one skilled in the art to readily recognize using different alarm indication pattern to indicate different alarm situation as taught in Buck. (See table in col. 6) because different alarm patterns would allow user to be able to understand what the alarm situation is caused by, e.g. by fire or gas.

Claim 10:

Buck discloses an ambient condition sensor (e.g. smoke sensor) and a control circuit coupled to the sensor. The detector in Buck has at least two different alarm specifying non-verbal pattern both associated with the same sensed ambient condition. See table in col. 6.

Buck fails to disclosure using processor programmed with executable instructions and presorted non-verbal output patterns. However, the use of a programmed processor in an ambient condition detector is conventional in the art as taught in Goszyk. In light of this teaching, it would have been obvious to one skilled in the art to use a programmed processor in the detector in Buck to achieve processing of information and provide alarm indication.

Claim 11:

In Buck, there is a second, different ambient condition sensor (e.g. gas sensor) coupled to the control circuit.

Claim 12:

The system in Buck includes a third alarm specifying, non-verbal output pattern associated with the second sensor.

Claim 13:

Buck suggests establishing the alarm condition associated with the second sensor and audibly generating the third alarm specifying output pattern. One skilled in the art would have readily recognized applying the same concept in the combined system of Buck and Goszyk to program instructions for doing the same.

Claim 15:

Buck suggests evaluating the device for internal status condition, such as system trouble or low battery, and responsively thereto generating an audible indication thereof.

Claim 16:

The system in Buck has a power supply and the circuitry in Buck evaluates the electrical parameter of the power supply (battery).

Claim 17:

The system in Buck has a power supply and the electrical parameter comprise s a battery output voltage.

8. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (US Patent No. 4,688,021) in view of Goszyk (US Patent No. 4,453,222) in view of Locker (US Patent No. 4,327,295)

Claim 18:

It is not clear if the sensor in Buck has a cover irremovably attached to it and removable when the detector is put in use. However, it would have been obvious to one skilled in the art to provide a cover for the gas sensor because it would be desirable to prevent the sensor from being exposed to the ambient environment before the sensor is placed into service.

Claim 19:

The first sensor in Buck is a smoke sensor and the second sensor comprises a gas sensor.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (US Patent No. 4,688,021) in view of Goszyk (US Patent No. 4,453,222) in view of Locker (US Patent No. 4,327,295)

Claim 20:

Buck fails to disclose the control element to include executable institutions for automatically testing the sensors. Nevertheless, Huey, Jr. et al. discloses the use of a control element, i.e. a SPU, for a smoke detector including instructions for automatically testing the sensor to ensure proper operation of the sensor. In light of this teaching, it would have been obvious to one skilled in the art to use a programmable control element SPU of Huey, Jr.'s in the Goldstein detector because it would provide more functional capability and enhance safety feature because it tests the sensor automatically without user intervention.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (US Patent No. 4,688,021) in view of Goszyk (US Patent No. 4,453,222) and further in view of Marnie (US Patent No. 5,573,953).

Claim 9:

Buck detects gas but does not use biomimetic gas sensor. However, the use of such sensor is conventional in the art as taught in Marnie. Thus, it would have been obvious to one skilled in the art to use a biomimetic sensor in detector of Buck's because it is conventionally used to detect gas.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al. (US Patent No. 4,688,021) in view of Huey, Jr. et al. (US Patent No. 5,594,422) and further in view of Marnie (US Patent No. 5,573,953).

Claim 21:

Buck discloses a detector comprising a housing which defines an internal region, a gas sensor, and a fire sensor. Buck fails to disclose a programmed processor. However, Huey, Jr. et al. discloses a smoke detector with a program processor to perform different functions of the smoke detector. A skilled artisan would have readily recognized using a programmed processor as that in Huey, Jr. in the Buck detector because it would allow for many functional capabilities such as signal processing, and also automatically and periodically testing the sensors.

Buck detects gas but does not use biomimetic gas sensor. However, the use of such sensor is conventional in the art as taught in Marnie. Thus, it would have been obvious to one

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skilled in the art to use a biomimetic sensor in detector of Buck's because it is conventionally used to detect gas.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Lieu whose telephone number is 703-308-6738. The examiner can normally be reached on Mon-Thursday, 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Julie Lieu
Primary Examiner
Art Unit 2632

jl
September 15, 2002